

## \* NOTICES \*

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention is constituted by two or more indicating equipments, gives an indicative data and address data to each indicating equipment through a display data bus and an address data bus, and relates to the display process defined system which displays a desired pattern on a desired indicating equipment.

[0002]

[Description of the Prior Art] Drawing 3 is the block diagram showing the conventional indicating-equipment system constituted with two or more indicating equipments. One of any arrangement addresses from each (0 0) to (m, n) is beforehand set to the display [ two or more (mxn individual) ] 1. Moreover, common connection of the display data bus 2 and the address data bus 3 is made at each indicating equipment 1.

[0003] In addition, the arrangement address of each indicating equipment 1 codes the address with the DIP switch formed, for example in the interior, and sets it up.

[0004] Next, actuation of the display system constituted in this way is explained.

[0005] While giving the data of the pattern which should be displayed on the display data bus 2, the address data corresponding to the address of the indicating equipment 1 which should be displayed on the address data bus 3 are given. If it does so, the indicating equipment 1 specified with these address data will input an indicative data from the display data bus 2, and will display said pattern.

[0006]

[Problem(s) to be Solved by the Invention] However, in case the conventional display system mentioned above constitutes a system combining two or more displays (henceforth the time of combination), since the arrangement address selection of each display 1 is required, at the time of combination and a maintenance, it needs to address each display individually and there is a fault that an activity is complicated.

[0007] This invention is made in view of this trouble, and it aims at offering the display system which setting out of the arrangement address of each display is easy, and can simplify a combination activity and a maintenance.

[0008]

[Means for Solving the Problem] The indicating-equipment system concerning this invention has two or more indicating equipments, the display data bus which common connection is made and transmits an indicative data to these indicating equipments, the address data bus which common connection is made and transmits address data to said two or more indicating equipments, and the address-information bus which transmits arrangement address information, and is characterized by to form an address detection means detect the arrangement address based on said arrangement address information in said indicating equipment.

[0009]

[Function] In this invention, an address detection means to detect the arrangement address based on the

arrangement address information given to each indicating equipment from an address information bus is established. For this reason, it is not necessary to set up the arrangement address of each indicating equipment individually with a DIP switch etc., and the arrangement address is automatically set as each indicating equipment in the indicating-equipment system concerning this invention by giving arrangement address information to each indicating equipment through an address information bus. Thereby, the arrangement address selection activity of each display becomes very easy.

[0010] In this case, supposing an operation means to output the detected arrangement address to an address information bus by making the result of an increment or decrement *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. into arrangement address information is formed, for example in each indicating equipment and the series connection of each indicating equipment is carried out by address information bus, setting out of the arrangement address of all indicating equipments will be automatically performed only by specifying the first address as an address information bus. Therefore, it is desirable that an address-arithmetic means to output the detected arrangement address to an address information bus by making the result of an increment or decrement *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. into arrangement address information is formed in each indicating equipment.

[0011]

[Example] Next, the example of this invention is explained with reference to an attached drawing.

[0012] Drawing 1 is the block diagram showing the indicating-equipment system concerning the example of this invention.

[0013] The indicating equipment [ two or more (mxn individual) ] 1 is arranged in the predetermined location, respectively, and common connection of the display data bus 2 and the address data bus 3 is made at each indicating equipment 1. Moreover, the series connection of each display 1 is carried out by address information bus 4.

[0014] Drawing 2 is the block diagram showing the configuration of an indicating equipment 1.

[0015] Each indicating equipment 1 is constituted by a display panel 5, driver circuits 6a and 6b, the control circuit 7, the interface circuitry 8, the address detector 10, and the address-arithmetic circuit 11.

[0016] Below, the actuation at the time of the arrangement address selection of each display is explained.

[0017] First, arrangement address data (0 0) are given to the indicating equipment 1 of the address position (0 0) through the address information bus 4. If it does so, in the display 1 of the address position (0 0), the address detector 10 will detect the arrangement address, consequently the arrangement address (0 0) will be set as a control circuit 7.

[0018] It can come, simultaneously the address-arithmetic circuit 11 carries out the increment (1 is added) of the arrangement address, and it outputs to the address information bus 4 by making the result into arrangement address information.

[0019] In the indicating equipment 1 of the address position (0 1), this arrangement address information is inputted through the address information bus 4. And the address detector 10 detects the arrangement address from this arrangement address information, and sets the arrangement address (0 1) as a control circuit 7. Moreover, the address-arithmetic circuit 11 outputs arrangement address information (0 2) to the address information bus 4 through an interface circuitry 8. Thus, the predetermined arrangement address is set as each display 1 one by one.

[0020] The actuation after the predetermined arrangement address was set as each display is the same as usual. That is, the indicative data and address data which are given from the display data bus 2 and the address data bus 3 are received by the interface circuitry 8, a control circuit 7 compares the arrangement address and address data which were set as the control circuit 7, only the indicating equipment 1 specified with address data inputs an indicative data, and a desired pattern is displayed.

[0021] In this example, the series connection of two or more indicating equipments which constitute an indicating-equipment system is carried out by address information bus 4, and in order for each indicating equipment to detect the arrangement address and to set up the arrangement address automatically, it does not have to carry out arrangement address selection of each indicating equipment 1 in software or hardware. For this reason, while an assembly activity and a maintenance become easy, it

becomes easy [ the system configuration itself ].

[0022] in addition -- although the case where the address-arithmetic circuit 11 incremented the arrangement address was explained in the above-mentioned example -- an address-arithmetic circuit -- the arrangement address -- a decrement (1 is subtracted) -- you may be like. In this case, the arrangement address (m, n) is first given to the indicating equipment of the address position (m, n) through an address information bus. Thereby, the same effectiveness as an above-mentioned example can be acquired.

[0023]

[Effect of the Invention] Since an address detection means to detect the arrangement address based on the arrangement address information given through an address information bus is formed in each display according to this invention as explained above, setting out of the arrangement address of each display becomes very easy. This does so the effectiveness that the assembly activity and a maintenance of a display system are simplified remarkably.

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TECHNICAL FIELD

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[Industrial Application] This invention is constituted by two or more indicating equipments, gives an indicative data and address data to each indicating equipment through a display data bus and an address data bus, and relates to the display process defined system which displays a desired pattern on a desired indicating equipment.

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CLAIMS

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[Claim(s)]

[Claim 1] The display process defined system which has two or more indicating equipments, the display data bus which common connection is made and transmits an indicative data to these indicating equipments, the address data bus which common connection is made and transmits address data to said two or more indicating equipments, and the address information bus which transmits arrangement address information, and is characterized by forming an address detection means to detect the arrangement address based on said arrangement address information in said indicating equipment.

[Claim 2] The display system according to claim 1 characterized by establishing an address-arithmetic means to increment the arrangement address detected with said address detection means in said display, and to output to said address information bus by making the result into arrangement address information.

[Claim 3] The display process defined system according to claim 1 characterized by forming an address-arithmetic means to output the arrangement address detected with said address detection means to said address information bus by making the result of decrement *Perilla frutescens* (L.) Britton var. *crispa* (Thunb.) Decne. into arrangement address information in said indicating equipment.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] Since an address detection means to detect the arrangement address based on the arrangement address information given through an address information bus is formed in each display according to this invention as explained above, setting out of the arrangement address of each display becomes very easy. This does so the effectiveness that the assembly activity and a maintenance of a display system are simplified remarkably.

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MEANS

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[Means for Solving the Problem] The indicating-equipment system concerning this invention has two or more indicating equipments, the display data bus which common connection is made and transmits an indicative data to these indicating equipments, the address data bus which common connection is made and transmits address data to said two or more indicating equipments, and the address-information bus which transmits arrangement address information, and is characterized by to form an address detection means detect the arrangement address based on said arrangement address information in said indicating equipment.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the indicating-equipment system concerning the example of this invention.

[Drawing 2] It is the block diagram showing the indicating equipment similarly.

[Drawing 3] It is the block diagram showing the conventional indicating-equipment system.

[Description of Notations]

- 1; display
- 2; display data bus
- 3; address data bus
- 4; address information bus
- 5; display panel
- 6a, 6b; driver circuit
- 7; control circuit
- 8; interface circuitry
- 10; address detector
- 11; address-arithmetic circuit

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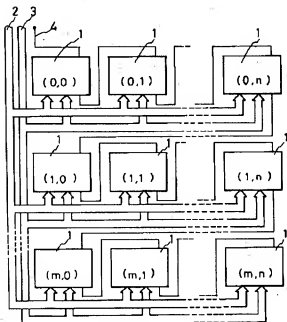
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## DRAWINGS

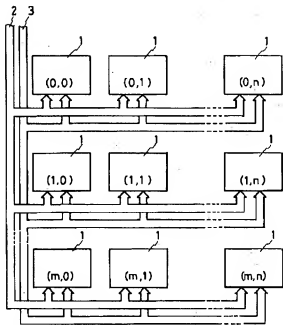
[Drawing 1]

- 1 ; 表示装置
- 2 ; 表示データバス
- 3 ; アドレスデータバス
- 4 ; アドレス情報バス

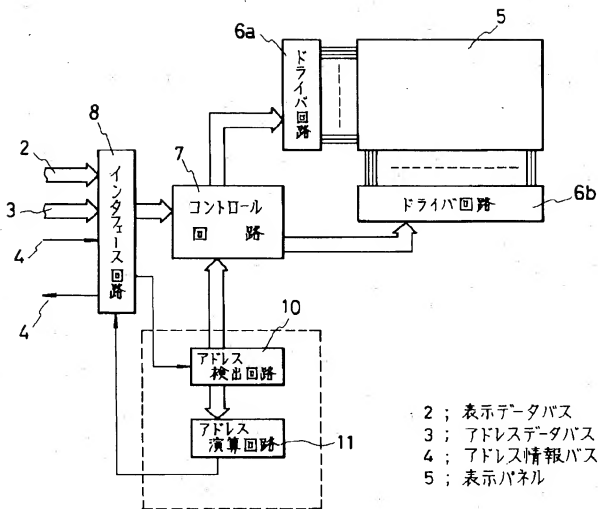


[Drawing 3]

- 1 ; 表示装置  
2 ; 表示データベース  
3 ; アドレスデータベース



[Drawing 2]



[Translation done.]